Abstract of the Disclosure

Methods and devices are disclosed for employing mechanical measurements to synchronize contractions of ventricular wall locations. Accelerometers that may be placed within electrode leads are positioned at ventricular wall locations, such as the left ventricle free wall, right ventricle free wall, and the anterior wall/septum wall. The accelerometers produce signals in response to the motion of the ventricular wall locations. A processor may then compare the signals to determine a difference in the synchronization of the ventricular wall location contractions. The difference in synchronization can be determined in various ways such as computing a phase difference and/or amplitude difference between the accelerometer signals. One or more stimulation pulses may be provided per cardiac cycle to resynchronize the contractions as measured by the accelerometers to thereby constantly and automatically optimize the cardiac resynchronization therapy.